

What is claimed is:

1. A power transmission system comprising; a vehicle power wheel with a fixed axle; a rotatable chain sprocket; a transmission ratio varying means; and a chain connecting the wheel with the transmission ratio varying means, the transmission ratio varying means including a drive collar fixedly secured to the sprocket and having at least one input drive ring and one output drive ring, a drive body displaceable with respect to at least one input drive ring and output drive ring, at least one input and one output pawl pivotally connected to the drive body and engageable with the at least one input drive ring and at least one output drive ring respectively, and a series of shifter housings moveable with respect to fixed axle cams to rotatably shift the drive body with respect to the input and output drive ring and change the relationship between the input and output pawls, and means to move the shifter housings with respect to the fixed axle cams to vary the torque transmission.

2. The system as claimed in claim 1 wherein the at least one input drive ring and output drive ring had a plurality of pawl receiving teeth associated therewith.

3. The system as claimed in claim 1 wherein the shifter housing means includes an operating handle rotor and a cable connecting the operating handle rotor with a shifter collar.

4. The system as claimed in claim in claim 1 wherein the transmission ratio varying means includes a plurality of input drive rings and output drive rings.

5. The system as claimed in claim 4 wherein each of the input drive rings and output drive rings include a plurality of input and output pawls.

6. The system as claimed in claim 1 wherein the input drive ring drives the input drive pawl, the input drive pawl drives the drive body, an input drive body drives the output pawl, and the output pawl drives the output drive ring.

7. The system as claimed in claim 1 wherein the torque transmission ratio is selectively variable.

8. The claim as claimed in claim 1 wherein each input drive ring and each output drive ring comprises a drive train and each additional drive train enlarges the angular velocity ratio exponentially.

9. The system as claimed in claim 1 wherein each input drive ring and each output drive ring comprises a

drive train and each drive train enlarges the torque transmission ratio so that the torque transmission ratio is selectively variable within a range of from 1:1 to 1:4.3.

10. The system as claimed in claim 1 wherein the eccentric operation of the shifter housings relative to the axle cams alternate in series configuration 180 degrees apart within the series of shifter housings and axle cams.